

Cannot Survive Without It (Water)



CANNOT SURVIVE WITHOUT IT

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Abstract

At the time the predominant theory was based on the concept of spontaneous generation. It was said that living creatures were derived from inanimate matter spontaneously. This theory was discredited by renaissance scientists (around the 17th century) as Louis Pasteur (1862) and other scientists. It revealed that from water living thing derived. Water is the main component of living things. Where did the first living organisms come from? To answer this question scientists developed several theories. Recent scientific theory says that life emerged from a long increasingly complex chain of chemical reactions. The chemical reactions came from the depths of oceans because atmosphere was not sufficiently safe to protect living organism from ultraviolet radiation. It was discovered filament structures smaller than bacteria containing DNA in deep rocks. Sayyid Quthub quoted scientists, at the time the heaven and the earth clove, the temperature of earth surface was 12.000 degrees Fahrenheit. In such the very high temperature there would not be elements in a compound form. All of matters are free as a single element.. And from that time on the earth releasing its energy or heat into space and outer space. Due to the water was poured, and the earth's surface released and lost it heat, finally the water reached the surface of the earth and resides somewhere on the surface in the ground as liquid and on the atmosphere as gas or vapour. So, by water the hot earth was cooled. The property of water is able to dissolve other substances. Were it not for the solven property of water, life could not exist because water transfers nutrients vital in animal and plants and also in human body. There are many therapeutic measures recommended to drink water, plain water. When the water extinct from our ecology, there are not living creature survive. No vegetation can maintain its growth, in turn, no herbivores or cattle supplying protein can live. People will dehydrate within a couple of hours. And in short, vegetation, animal and human Cannot Survive Without It.

Key words: Survive, water, science, living.

Introduction

At the time the predominant theory was based on the concept of spontaneous generation. It was said that living creatures were derived from inanimate matter spontaneously. This theory was discredited by renaissance scientists (around the 17th century) as Louis Pasteur (1862) and other scientists. It revealed that from water living thing derived. Water is the main component of living things.

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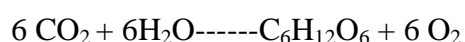
Origin of Living Thing. .

It had been debating on origin of life since the time of Aristotel (4 centuries before christ). At that time the predominant theory was based on a concept of spontaneous generation. It was said that living creatures were derived from inanimate matter spontaneously. This theory was discredited by renaissance scientists (around the 17th century) as Spallanzani (1729-1799), Schultze (1836), Schwann (1837) and Louis Pasteur (1862) and other scientists. They concluded their observations that living organism appears from other living organism. This theory called biogenesis that is *omne vivum ex ovo* means every living thing is from its eggs.

Where did the first living organisms come from? To answer this question scientists developed several theories. Recent scientific theory says that life emerged from a long increasingly complex chain of chemical reactions. The chemical reactions came from the depths of oceans because atmosphere was not sufficiently safe to protect living organism from ultraviolet radiation. It was discovered filament structures smaller than bacteria containing DNA in deep rocks. Biologist had long detected and studied the existence of archae that is microorganism, bacterium-like organism, living in harsh ecology such as in deep under surface of ocean (Chem Duke, 2008). It is indicated that water commences its vital role in creation of all the living things both as medium and as component of it. After being created, living thing have to maintain their life, they need energy and food to survive. Where do the energy and food derive? No doubt they come from water. Seeds will stand to be dormant and will not germinate in the absent of water. Vegetation will grow best in humid soil and enough relative humidity of atmosphere. Food chains are commenced from

vegetation. Food crops supply human with grains and cereals, and tuber and fruits, and vegetables.

While protein richer foods come from fishes and cattle (animal). They are herbivorous. They feed on vegetation. In turn, Carnovour animal preys on hebavours to survive their life. Then there will be no vegetation growth and differentiation without the process of photosynthesis. And there will be no such the process without water. Water (H₂O) is the main component in photosynthesis. Biochemical formulation of the photosynthesis simple equition is as follow:



Carbon dioxide + Water produces (in the chlorophyll and in the present of sunlight) starch and oxygen .

Water.

When we think of how the Almighty God, Allah SWT, created the universe, one will remember the theory developed in which several independents support to a cosmological model of the universe creation. The theory is based on observation conducted by Edwin Hubble in 1929. Result of the observation indicated that the universe is expanding. This occurrence makes conclusion that universe is seen to be expanding up to now, then it must have been smaller, denser and hotter in the past. The state of the universe is such before it burst into what we know the galaxies and all planets including the earth which we live on.

The distance of galaxies are measured by analyzing the spectrum of light. Analysis on the length of wavelengths revealed a shift toward longer wavelength proportional to each galaxy's distance. This is related to hubble's description, Hubble's description also gives information that the universe is undergoing a continuous expansion.

A more stronger evidence was found in 1964, the cosmic microwave radiation indicated that this universe has naturally cooled from an extremely hot and dense initial state a long time ago. In short, this model explains that universe expands from an extremely dense and hot state and continues to expand today. This happening can be described as a good analogy that space itself is expanding carrying galaxies like raisins in a rising loaf of bread.

The universe continued to grow in size and fall in temperature, hence typical energy of each particle was decreasing. This model of thought is in agreement with that of Allah revelation in chapter al-Ambiya verse 30.

“Do not the Unbelievers see that the heavens and the earth were joined together (as one unit of creation), before we clove them asunder? We made from water every living thing. Will they not then believe?”¹

As a matter of fact in chemical reactions, when a thing is splitting or cloving spark or energy is produced or needed.. The verse above says that firstly, the heaven and the earth were one thing or were closed up. A great energy was sparked when it happened to be clove asunder.

Sayyid Quthub quoted scientists, at the time the heaven and the earth clove, the temperature of earth surface was 12.000 degrees Fahrenheit. In such the very high temperature there would not be elements in a compound form. All of matters are free as a single element.. And from that time on the earth releasing its energy or heat into space and outer space. The decrease of heat on the earth may occur gradually or acceleratedly. Chapter al-Hud verse 7 states that the heaven and the earth are created in six days ² We count a year for duration of around 365 days in the presence of the sun. How we measure the time then, when the sun is still in processing. However, the duration reckoned by Allah is other duration.

Following the splitting of the heaven and the earth, we see the verse 25 of the chapter al-Abasa, It is interpreted that the process of heat decreasing was accelerated.

That We pour down the water, pouring (it) down in abundance”³

The poured water meant in the verse 25 of al-Abasa was not water of rainfall or precipitation as we know fall from the sky. When Allah SWT show the function of rainfall, it is mostly decribed with the verb *anzala* = send down as in chapter al-Mu'minun verse 18

In the formation of the earth water was poured and not sent down. It mean that Allah would cool the earth down. Sayyid Quthub's interpretation on this pouring water that the water was at first resisted by high degree of heat on the atmosphere. No water could approach the surface of the earth. Molecule of water (H₂O) was broken down by high temperature of the atmosphere into free elements of hydrogen and oxygen. Boiling point of

¹ English Translation by Abullah Yusuf Ali

² Reckoning based on Allah SWT is different with that of mankind ” Verily a Day in the sight of thy Lord is like a thousand years of your reckoning. Al Hajj Verse 47. (surely a day with your Lord is as a thousand years of what you number). Quraish Shihab opined that in the period of universe creation there was not yet the sun. Men defines days based of the rotation of the sun, so how we count a day without the sun. The creation of the universe (six days) is the unseen (*ghayb*) to the man or other creatures, as stated in chapter al-Kahf verse 51. “I made them not to witness the creation of the heavens and the earth,nor their own creation; nor choose I misleaders for (My) helpers.

³ Translated by Muhammad M.W. Pickthall.

water is just 100° Centigrade, while the temperature of the earth was as high as 12.000° C. Due to the water was poured, and the earth's surface released and lost its heat, finally the water reached the surface of the earth and resides somewhere on the surface in the ground as liquid and on the atmosphere as gas or vapour. So, by water the hot earth was cooled.

After water existed in this globe, then water began to function as solvent and agent of degrading the texture of the earth crust. The massive, hard and solid earth crust was split into gravels, further gravels were split into coarse sand, and sand particles were further split into the so called silt fraction, and finally the silt is degraded into the finest fraction of soil called the clay. Soil science says this as the soil texture. When the earth crust is arable then it is ready for planting process.

This principle process of soil genesis is mentioned in verses 26 and 27 of al- Abasa chapter. "And We split the earth in fragments. And cause the grain to grow therein"⁴

Hydrological Cycle

Water fills the reservoirs in different forms within the so called water cycle. Based on Space About (2009), the water cycle consists of five phases:

- 1) Condensation : water vapour condenses in the atmosphere to form clouds. Condensation occurs when the temperature of the air or earth changes. Water vapour in the form of clouds changes states become drops of water when temperature cool enough. This process is noticeable on leaves as they dew in the morning.

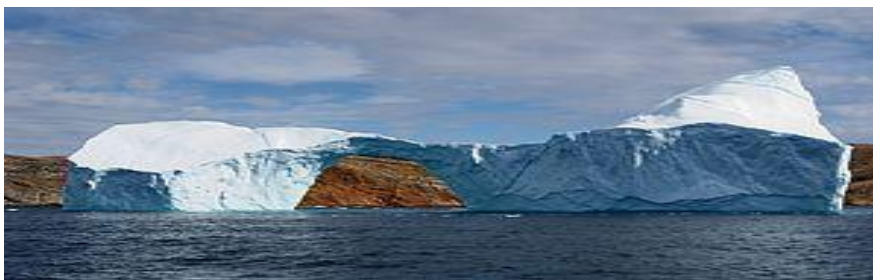


Figure 1. Three Dimensions of Water (Wikipedia.org.2012)

- 2) Infiltration is the seeping process of water into the ground. This occurrence depends on the condition of the soil.

⁴ Muhammad Taqi-ud-Din Al-Hilali and Muhammad Muhsin Khan. 1417 H

- 3) **Runoff:** When the water falling over the ground cannot seep into the ground due to less permeable of soil, then the water flows on the surface of the ground. The runoff flows into streams, rivers and eventually reach lakes or oceans
- 4) **Evaporation:** The power of the sun is always driving water to change its form to be vapour. This happens on all of the surfaces of earth and vegetation.



Figure 2. Jatiluhur Dam. West Java. (Jatiluhur.org.id/dam.2010)

- 5) **Precipitation.** The Condensation makes water change into drops of water falling down as precipitation..

A person can live without food for more than a month, but can live for only a few days without water. All living things need water to survive. The human body needs two liters of water a day. The average human body is composed of about 55% water. Most of our food is water; tomatoes 95%, spinach 91%, milk 90%, apple 85%, potatoes 80%, and beef 61% (Geocities. Com, 2009).

The property of water is able to dissolve other substances. Were it not for the solven property of water, life could not exist because water transfers nutrients vital in animal and plants and also in human body. There are many therapeutic measures recommended to drink water, plain water.

The largest accounting for 97% water is in the collection of oceans. The second largest quantity as much as 2 % is water stored in solid form in the ice caps and glaciers. And the rest, in small quantity, water contained within all living organisms. The distribution of the earth's water are as groundwater 0.68%, in lakes 0.01%, as soil moisture 0.005%, as gas in atmosphere 0.001%, in streams and rivers 0.0001%, and contained in the bodies of living organisms (animals' body including human body and vegetation) 0.00004% (Wikipedia.org, 2008)

The volume of water never changes since it came down on the earth. It is always the same amount of water on the surface of the earth. The storehouse for the majority of all water on earth are the oceans. It is estimated that the oceans supply about 90% of the evaporated water that goes into the water cycle. Water cycle or hydrologic cycle describes the continuous movement of water on and below the surface of the earth. Substance of water can change among the state of liquid, vapour and solid. Vapour is gas form, while solid is in the form of ice. Sun energy drives water to evaporate as vapour into the air. Wind blows vapour into the air high up to the sky. The vapour rises into the upper part of atmosphere where cooler temperatures cause it to condense into clouds. When the clouds reach position high enough where it precipitates into drops of water (precipitation) and fall off the sky as rainfall.



Figure 3. Topographic Factor Changes The Status of Water (Hydrocycle-Eng.Com.2012)

Water comes down from the sky as a gift for all the creatures on earth in the form of rainfall. Water is very important to life. The extinction of water will cause the existing biosphere on the earth impossible.

The detrimental of green house effect is relieved by the existence of water vapour that cools the air temperature. Without the cooling effect of evaporation, the greenhouse effect would lead to a much higher temperature of 67°C (Map.gsfc.nasa.gov. 2010) If this happens, only the thermophylic (withstand living in high temperature condition) organism can withstand the heat and human must stay all day long in an air conditioned room.

Rainfall is partly absorbed by land and a portion of rain water soaks into the ground as infiltration water gravitational water. Water infiltrates deep to the saturated subsurface rock forming subterranean water surface. The massive rock acts as container for storing huge volume of freshwater. Water also fills the so called micropores and macropores of soil particles. In dry condition these pores are filled with air or gas, but when rainwater comes, water replaces the air. Pores for some times function as water container to supply the roots.



Figure 4. Life: Lack of Water (Photo Contributed by Sani Manga, Abuja. Nigeria. 2011)

Water stores in soil particles and in subsurface rock may seep back into stream or opening in the land surface and emerges as freshwater springs or ground water discharge. In the region where the land is covered with dense vegetation, its roots system can increase the infiltration and the water holding capacity. Discharging water from this region continuous flowing over time even till the end of dry season, allowing the streams and rivers ever flowing its water all year round supplying for human use and maintaining the life of organisms.

Water lodging in the earth as capillary water filling the pockets of soil pores have been the water supplying reservoir in dry season. The phenomena of this water distribution is apparent in agroclimatic and the cycle of hydrology. Functions and roles of water in the life of creatures are absolutely very important.

When the water extinct from our ecology, there are not living creature survive. No vegetation can maintain its growth, in turn, no herbivores or cattle supplying protein can live. People will dehydrate within a couple of hours. And in short, vegetation, animal and human Cannot Survive Without It.



Figure 5. Drought and Dehydration and Starvation
(Photo contributed by Sani Manga. Abuja.Nigeria.2011)

Conclusion.

From water living thing is derived and come. Water is mentioned to be poured and sent down on earth and became the agent of all processing happening. Functions and roles of water very important. It contains in all things. Without it, it may be no creature survive in this universe.

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Preface for depositing to Digilib on 5 August, 2017

Artikel yang dikompetisikan adalah ringkasan dan modifikasi dari artikel lengkap yang merupakan artikel sains Islami. Uraian dan bahasa dalam artikel yang dikompetisikan disesuaikan dengan selera pembaca yang pluralis dan mengingat pula pembaca di dunia Barat banyak yang berfaham sekuler. Juga saudara tua Nasrani dan Yahudi akan tidak terlalu merasa diajak berpikir Islami. Dengan pertimbangan tersebut, isi artikel ditulis seakan akan tidak Islami, tidak terasa adanya nuansa yang Islami. Ternyata benar, dari sekian banyak pembaca, penulis yakin ada pembaca dari Israel yang memberikan sharing pendapat tentang kebijakan penggunaan air di Israel.

Meskipun demikian, tersirat esensi Islami sebagai tujuan semula penulisan artikel tersebut, nilai islam sebagai agama samawi tersirat dalam artikel tersebut, seperti dalam paragraf :

“Water comes down from the sky as a gift for all the creatures on earth in the form of rainfall. Water is very important to life. The extinction of water will cause the existing biosphere on the earth impossible”.

Pembaca yang rajin atau pernah membaca kitab suci terutama seorang muslim akan merasa tidak asing dengan kalimat pertama di atas. Frase *“comes down from the sky”* adalah tejemahan *“anjala min as-samaa”* Demikian juga frase *“Water is very important to life”* adalah kata lain untuk menyebutkan *“wajaalna minal maa’i kulla syaiin hayyin”* Kami jadikan segala sesuatu yang hidup itu dari air”

Pada paragraph lain terdapat kata *“Water is mentioned to be poured and sent down on earth and became the agent of all processing happening”*. Kalimat inipun adalah penjelasan dari ayat 27 surat Abasa ayat 25:

“Sesungguhnya Kami telah mencurahkan air sederas-derasnya”

Ayat berikutnya (ayat 26-28) yang menginformasikan bahwa Allah membuat kondisi permukaan bumi yang baru dibentuk menjadi kondusif untuk pertumbuhan benih (kehidupan dimulai)

Orang ateis yang tidak menyadari bahwa hidupnya dan keberadaan dirinya di dunia ini adalah diciptakan oleh sang pencipta. Ateis berkeyakinan setelah mati segala urusan berahir, karena mereka tidak percaya adanya kehidupan alam akherat yang berpangkal dari penyangkalan atas adanya Allah sang maha pencipta yang ghaib bagi ateis. Oleh karena itu penulis memaparkan kondisi ghaib dengan pendekatan mikroorganisme yang tidak kasat mata tetapi efek dalam kehidupan sangat besar seperti zasad renik virus, sehingga alam akherat yang alam gaib akan muncul dibenaknya ketika virus yang tidak terlihat itu menyebabkan orang sakit (misal flu). Buku Mikrobiologi, Kajian dalam Perspektif Islam menjadi renungan bagi kaum ateis (Subandi, 2014)

(Kata ***creature*** adalah bahasa religi dari kata kerja menciptakan *create* dalam bahasa al-Qur’an *khalaqa* .Kata ciptaan itu sebetulnya mengingatkan dan mengajak orang yang berfaham ateis untuk menyadari kekeliruannya. Kalau dia sadar, dan tetap keras kepala atau rasionya tidak berfungsi, tentu dia tidak akan melanjutkan membaca artikel ini, tetapi jika hidayah Allah dilimpahkan padanya, dia akan segera sujud dan bertobat dan mensucikan dirinya. Demikian lengkap Allah berbuat, menciptakan dan menyempurnakan ciptaannya dan

selanjutnya menentukan ketentuan-ketentuan/kadar dan memberikan petunjuk bagi *creature* atau makhluknya. Demikian yang ditafsirkan dari surat al-‘Ala ayat 1-3 :

“Sucikanlah nama Tuhanmu Yang Maha Tinggi: Yang menciptakan dan menyempurnakan; dan yang menentukan kadar serta memberi petunjuk”

Sebaliknya Allah pun adalah yang menghentikan hidup ciptaannya (mematikan).Lengkap sudah informasi kejadian di alam ini, fenomena yang empiris hidup dan mati.Tidak ada alasan yang kuat bagi manusia untuk menyangkal adanya sang pencipta Ayat 2 surat al_mulk:

“Yang menciptakan mati dan hidup untuk menguji kamu, siapa diantara kamu yang lebih baik amalnya, dan Dia Maha Perkasa dan Maha Pengampun”

Dalam kata *creature* terkandung pengertian relasi dengan kata *creator*. Pada saat itu, pembaca akan mengasosiasikan dengan konsep Pencipta dan dirinya mengakui keberadaan atau hidupnya sebagai hasil ciptaan sang Pencipta. Sebagaimana ayat pertama yang Allah turunkan (Subandi, 2011).

Inspirasi air sebagai materi esensial dalam hidup juga teraplikasi pada artikel teknologi hidroponik (Subandi, Nella purnama dan Budy Frasetya, 2015) yang ditulis setelah artikel yang dikompertisikan cannot survive without it.

Artikel lainnya yang menyusul adalah pemikiran untuk menyiapkan bahan makanan setelah air tersedia “Developing Islamic Economic Production” menguraikan bagaimana bahan pangan harus menjadi focus perhatian untuk kesejahteraan hidup (Subandi, 2012). Penjelasan lebih rinci dari pengaruh air dalam kehidupan diuraikan dalam artikel Science as a subject of learning in Islamic university (Subandi and Abdelwahab, 2014)

Akhirnya pembaca akan menyakini bahwa al-Qur’an itu maha benar sebagaimana Subandi (2012a) yang menyatakan “All living creatures require water, and almost the processing happening need water. Through the scientific observations and the natural evidences revealed, now we believe in the Qur’an that it is true all the times.


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